

# THE EUGENICS REVIEW

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## OTHER NOTICES

**Arthur Gütt, Ernst Rüdin, and Falk Ruttke,** (Bearbeitet und erläutert von). *Gesetz zur Verhütung erbkranken Nachwuchses vom 14. Juli, 1933, mit Auszug aus dem Gesetz gegen gefährliche Gewohnheitsverbecher und über Massregeln der Sicherung und Besserung vom 24. Nov. 1933. Mit Beiträgen: Erich Lexer, Die Eingriffe zur Unfruchtbarmachung des Mannes und zur Entmannung; Albert Döderlein, Die Eingriffe zur Unfruchtbarmachung der Frau.* J. F. Lehmann, München, 1934. Pp. 272. Price 6 marks.

It is not the task of the reviewer to criticize the German Law for the Prevention of Hereditary Disease. This has already been done in this journal, and it has been made clear that whereas the German law makes sterilization compulsory, the British attitude is in favour of voluntary sterilization only. I need, therefore, only describe the contents of this very comprehensive book.

It opens with a general introduction to genetics, and this is followed by the text of the law of July 14th, 1933, and of the decree for its execution of December 5th, 1933, issued by the ministers of the German Reich for Home Affairs and for Justice, and the official motivation of the law. Next comes a very thorough commentary on the law and

decree (92 pages); then an abstract from the "Law against dangerous habitual criminals and on safeguarding and reforming measures" of November 24th, 1933 (in which castration is proposed as a new safeguarding and reforming measure against dangerous criminals who have been condemned several times for sexual assaults), and an abstract from the decree for the execution of the law of the same date.

At the end of the book are the following appendices: "Description of the sterilizing and castrating operations in men, by Erich Lexer, professor of surgery, Munich; a description of the sterilizing operations in women, by Albert Döderlein, professor of obstetrics and gynaecology, Munich; an explanation of the technical terms used; a list of the decrees issued by the governments of the different *Länder* (states) of the German Reich; a list of the Eugenic Courts (178) and Eugenic High Courts (29); and a bibliography.

The "Leader of the German Physicians" (*Führer der deutschen Ärzteschaft*) considered the book so important as to instruct every German physician concerned with eugenic cases—i.e. practically every physician in the land—to buy it. The reviewer, too, thinks that it is of the greatest importance for every student of eugenics, and especially of sterilization problems.

F. TIETZE.

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## PAMPHLETS

**The Inheritance of Mental Defect.** By R. Ruggles Gates. (Reprinted from the *British Journal of Medical Psychology*. Vol. XIII, Part III, 1933.)

In this survey of many of the modern and at times conflicting views of the inheritance of mental defect, Professor R. Ruggles Gates presents to us a reasoned and reasonable summary of the work of, amongst others, such writers as Tredgold, Lundborg, Torsten Sjögren, Goddard, J. C. Smith, Luxenburger, Brugger, Pleger, and Legras. From this extensive analysis Professor Gates is able to pass under critical review the probabilities or otherwise, of the inheritance of many clinical

varieties of mental disorder. So wide, indeed, is this field that it would be a matter of surprise if the author did not himself occasionally fall into error. There is sometimes a confusion of terms, and at others a lack of appreciation of the value of clinical experience with human material. These errors are, however, best left to the reader of the original to determine for himself and in accord with his own general or special knowledge of the subjects under discussion. Whatever its errors, so comprehensive a survey of the literature, which undoubtedly emphasizes the importance of hereditary factors in the production and perpetuation of many mental disorders, cannot fail to be of service and hence is our debt to Professor Gates the greater.

R. J. A. BERRY.

# PERIODICALS

## American Journal of Physical Anthropology

**Jan.-March, 1934, Vol. XVIII, No. 3.**—T. D. Stewart studies the measurement of cranial capacity and describes the new Goldstein machine for this purpose. J. Gillman reports having found it possible to restore mummified tissue by slow softening in a 1-part solution of sodium hydroxide in 33 per cent. alcohol. After 1-2 weeks the tissues should be washed gently in running water and put into formalin and then into 90 per cent. alcohol. S. Glaser finds that there is a definite superiority of the Negro over the European with regard to density distribution of sweat glands throughout the body. A. L. Krocber gives a valuable review of blood-group classification with a large diagram; he thinks the A and B factors almost certainly originated more than once and that there is need for much larger data. Eizo Akabori finds that septal apertures in the humerus are much commoner among the Ainu in Sakhalin than among those in Hokkaido; they are also common among many groups of American Indians but occur in only few cases among Europeans, they were very common among ancient Egyptians, and are said to occur commonly among Australians. F. S. Cotton discusses the position of the centre of gravity in the bodies of Americans. M. Michelson writes on the distribution of red hair according to age, and finds that in males it increases in middle life (32-47) then decreases (47-65), then increases slightly (65-70), then finally decreases. He thinks that dark pigmented hairs contain the red colour component and that this latter becomes more apparent with the advance of age. L. A. Hausman reviews the variability of human hair especially on different parts of the body, and M. Trotter and H. L. Dawson compare the hair of French Canadians with that of American whites.

S. B. D. Aberle shows that deaths attributable to pregnancy and parturition are very numerous among the Pueblo Indian women, and that therefore childbirth among the more primitive peoples is probably not a relatively simple and safe event for the mother. J. Whitacre discusses techniques for measuring the standing heights of school children, and favours making the child stand erect against a measuring board rather than free on a measuring scale.

H. J. FLEURE.

## Annals of Eugenics

**Vol. V, Parts III and IV.**—*A Co-operative study of the Habits, Home Life, Dietary and Family Histories of 450 Cancer Patients, and of an equal number of controls.*—By Percy Stocks and Mary N. Karn.—This is an attempt to elucidate the antecedent

conditions which lead to an attack of cancer, by comparison between those suffering from the disease and other patients of a like age and sex who were being treated for some other disease.

Unfortunately the response to the appeal for statistics was disappointing and an investigation which might perhaps have really settled quite a number of most important matters has attenuated down, through no fault of the authors, to a mere indication that certain articles of diet should be matters for further intensive study.

Of these the most important were unboiled milk and many fresh vegetables, which were consumed less frequently by the cancer patients than by the controls, and beer which was consumed more frequently. Apart from these, there seems to have been significantly more pipe smokers among the male sufferers from cancer of the tongue, lips, mouth, and pharynx than among the controls, and among the females there was "a significant negative association with previous dyspepsia and jaundice."

Most of the matters investigated failed to give significant results, as, for example, animal companions, house sites, temperament, constipation, cigarette smoking, rheumatism, diabetes, appendicitis, and a large number of articles of diet, including different kinds of bread, tinned food, kippers, fresh fruit, pig meat, tea and coffee, and alcohol other than beer. Nor was there evidence of any hereditary predisposition. Nevertheless, it is hard to say how far the results, whether positive or negative, were due to lack of data, and the authors do not claim to have done more than indicate certain lines of research.

Especially is this lack of data felt in the secondary investigations which might otherwise have been attempted, as for example whether the excess of milk drinkers and jaundiced ladies among the controls was due to milk drinking and previous jaundice landing their addicts into hospital as non-cancerous patients, or again whether the beer drinking was the cause or an accompanying phenomenon of the cause of cancer.

The statistical treatment calls for little comment; like all Dr. Stocks's work it is painstaking and thorough, yet the second formula which he uses in brackets, but apparently does not trust very far, seems to assume that there is no "random error" in taking the percentage in the control sample as that in the non-cancerous population.

*A Study in Inherited Brachydactyly.*—By K. I. Nissen.—This is an investigation into the New Zealand branch of the Ashmore family of whom thirty out of sixty-one members whose condition was known with certainty, were afflicted with brachydactyly.

The defect appears to have behaved as if the

afflicted people were heterozygous with respect to a dominant Mendelian factor with no sex-linkage. The number of living members of the family affected by the complaint has risen from one to twenty-six in seventy years, which seems to convey a moral.

*On the spread of smallpox in partially vaccinated communities. Part II Variola minor in Durham and neighbouring counties, 1922-31.*—By Percy Stocks. —In Part I of this study Dr. Stocks was able to draw several very important conclusions from his investigations of the Stepney epidemic of 1929-30, among which the following may be mentioned:

"The incubation period of variola minor . . . can only very rarely be less than ten days or more than eighteen days."

"When a smallpox case was removed to hospital on the day of the appearance of the rash, the subsequent attack rate among unprotected\* home contacts was significantly less than where removal was delayed."

"Vaccination of unprotected contacts within two days of the appearance of the rash in attack to one-seventh."†

"Vaccination three or four days after reduced the risk to one quarter, vaccination five, six, or seven days after reduced it to two-thirds, but with longer intervals there is no evidence that it was effectual."

"The primary cases of smallpox showed a relative excess of young adults in comparison with the secondary cases, which suggests that smallpox is spread in workshops rather than in schools."

"Vaccination less than twenty years before reduced the risk of immediate attack" (as contacts) "below one-twentieth, vaccination twenty to thirty years before reduced it below one-twelfth, vaccination thirty to forty years before reduced it to one-ninth and if more than forty years before to less than one half."

"Although no evidence is found that a protection rate as high as 60 per cent. suffices to protect a community from the spread of an epidemic, as distinct from protecting the vaccinated persons in it, the risk to unvaccinated persons in it appears to have been considerably reduced when more than half the persons living in the house were protected by vaccination."

"The steady decline in attack rate amongst unprotected home contacts after the epidemic had become diffused indicates that either the virus became progressively less infective or that latent immunity was being acquired by the population. Although no evidence in favour of the latter explanation is found from subsequent attack rates of contacts who escaped immediate infection, it is a curious fact that the immediate

attack rate in unvaccinated children under ten years of age who were exposed to infection was no lower in 1930 than in 1929, whereas in adults it was much lower. This would be difficult to account for on the first hypothesis but could be explained if the bulk of the propagation of smallpox takes place in work-places, factories and places where adults are crowded together."

It was also noted that the average number of persons per house in those houses in which a case occurred was above the average for the borough. This, however, follows inevitably from the way of selecting the houses and would be the case for houses sheltering red-headed men. It cannot, therefore, be concluded *without further investigation* that overcrowding is in any way responsible for the incidence of smallpox, any more than that it favours the growth of red hair or hare lips.

In this Part II, however, Dr. Stocks produces evidence to show that smallpox epidemics tend to be more prolonged but not more intense in those districts in which overcrowding is prevalent. He suggests that this may be due to a greater movement of population into such districts.

*On the inheritance of migraine. A preliminary note.*—By Julia Bell.—This is mainly concerned with a collection of 300 patients made by Dr. Elliot, but contains a description of the disease and a discussion of the relationship between it and other allergic diseases.

There are considerable difficulties in the investigation of the inheritance; it is not, except to the unfortunate patients, a very obvious disease, and since they soon find that attacks are temporary while the symptoms, or some of them, are apt to excite derision, many cases of migraine must remain unreported. For this reason it is hard to guess at the proportion of the population who are affected, and even among the relatives of an acknowledged sufferer there may well be many who would not willingly confess to being subject to it.

A personal note may be *à propos*: I myself experienced one of the more spectacular manifestations for the first time in middle age, having been ignorant of the nature of migraine up to that time, and both the doctor who examined me and the oculist to whom he sent me, consoled me by saying that they too saw "fortifications" when they were run down. And this suggests that Dr. Hurst's dictum—"in its crippling influence on the work of men and women of the highest intelligence during their years of greatest mental activity, migraine stands alone"—may have its origin in the fact that the attacks are often brought on by fatigue due to mental overwork.

*The Lanarkshire Milk Experiment.*—By Ethel M. Elderton.—This was an experiment in which 10,000 school children were given milk daily for four months and their increases in height and weight during this period were compared with

\* i.e., not vaccinated within a period of thirty years before contact and four days after.

† Of the risk run by unprotected contacts.

those of another 10,000 selected as controls. Owing, however, to the humanitarian instincts of the teachers, who appear to have disregarded the rules for selecting random samples of children as milk drinkers and controls, no valid conclusions could be drawn from the results as originally published. This paper represents an endeavour on the part of Dr. Elderton to remedy the lack of randomness. Such an attempt recalls Lincoln's famous aphorism "You can't unscramble an egg," but the analogy is imperfect; rather has Dr. Elderton set herself to "unchurn butter," a feat within the range of modern achievement.

The original trouble was threefold; first, the controls, at the beginning of the experiment, were taller and heavier than the milk drinkers; secondly, the children were weighed in their clothes and the controls seem to have discarded more clothes between February and June than the less prosperous milk drinkers, and thirdly, the interesting comparison which was made between "raw" and "pasteurized" milk was carried out in different schools.

Dr. Elderton's method was to sort out pairs of control and milk drinkers of about the same original age, sex, height, and weight, and to limit the comparison to these pairs.

The question arises whether a child belonging to one population really corresponds to another picked out as being of the same height and weight from a second population of somewhat less well-fed and clothed children. At first sight one would be inclined to say "certainly not," for had the second been as well fed as the first, he would have been taller and heavier. Dr. Elderton, however, is of the opinion that the difference between the milk drinkers and the controls was not uniform but was concentrated in a "tail" of very undernourished children which, having no counterpart in the control group, was not included in her comparison. This is just what might have been expected and the evidence of the benefit to be derived by school children from a daily allowance of milk must be given due weight.

When, however, we come to the comparison between raw and pasteurized milk, Dr. Elderton's ingenuity has not, I think been so successful. For although the evidence that the two sets of schools differed does not amount to much,\* yet the Lanarkshire population is very far from being homogeneous, and the schools are hardly numerous enough to even this out. How are we to know that the observed advantage of raw milk, such as it was, was not really due to—or much diminished by—a racial difference between Irish and Highlanders or an environmental difference between town and country?

\* The controls in the schools taking raw milk put on less weight—i.e. probably discarded more clothes in summer—than those in the schools taking pasteurized milk, indicating better conditions, but only to the extent of about  $2.2\frac{1}{2}$  times the probable error.

Dr. Elderton has succeeded in unchurning her butter, but I fear that some of it was too salt to produce cream of really first-class quality.

In an appendix to Dr. Elderton's paper Dr. Karl Pearson illustrates his (P. $\chi^2$ ) test on the figures submitted by her. The merits of the new method are hardly a subject for discussion in this Review, but there is a matter of interpretation which is of general interest.

He finds that when comparing the stature of boys given raw and pasteurized milk the results have a probability of randomness 0.7381, while in the case of girls the corresponding probability is 0.0088.

From this he concludes, as of course he is entitled to do if his data are otherwise sound, that "in the case of boys . . . there appears to be no evidence whatever that one type of milk more than the other accelerates the growth. . . . But we have the remarkable result that in girls the two types of milk are not indifferent with regard to the acceleration of growth in stature."

He goes on, however, "why should raw milk have a constituent which accelerates stature growth in girls and not in boys?" and here, as it seems to me, he goes beyond his facts. He has no evidence, it is true, that "one type of milk more than the other accelerates growth" of boys, but on the other hand he has no evidence that it does not. For it cannot be concluded that two samples differ significantly merely because one produces statistically significant evidence and the other does not.

For example, two samples of eight coins are tossed and in one case eight heads turn up and in the other five. In our humdrum society both would, of course, be regarded as accidents, but in a community of "crook" gamblers the former might be considered to be evidence of the presence of double-headed coins and the latter not.

Appeal to mathematics would show that, with ordinary coins, one might expect eight heads once in 256 tosses, and once eight tails, the chance of such an extreme result being  $\frac{2}{256} = 0.0078$  while

that of the occurrence of such a result as five is  $\frac{186}{256} = 0.727$ . That might perhaps entitle the gamblers to conclude that there were double-headed coins in the first sample, but it would not prove that the samples differed significantly: in fact, samples containing five double-headed coins and three ordinary would be as likely to give one result as the other—and either quite frequently.

In this case the advantage is in both samples in favour of heads, while in Dr. Pearson's the girls were '076" in favour of raw milk and the boys '007" against it. So large a difference between the boys and girls is rather unlikely to be due to chance, though here, too, neither the boys nor the girls would appear to differ significantly from an intermediate figure, say '032" in favour of raw milk, but

there is no need to conclude that it is a difference in kind and not in degree.

But as I have indicated in my review of Dr. Elderton's paper, raw and pasteurized milk were consumed in different schools and, until the selection of the schools has been shown to be random, no result, however significant, need be attributed to the kind of milk.

It is possible, perhaps not even improbable, that the country schools were given raw milk and the city pasteurized. If that were so any difference in favour of raw milk may well have been diminished, so that what might have been a significant result in both sexes has actually in the case of the boys become a minute advantage to pasteurized milk.

"STUDENT."

## Character and Personality

**March, 1934, Vol. II, No. 3.**—There is little of eugenic interest in the present number. Ernest Seeman, in a study of the development of pictorial aptitude in children, outlines the initial stages through which children of all races and all degrees of talent seem to pass. These universal features are soon affected by cultural elements. The article includes many illustrations, mostly of early attempts to draw human figures, by children of diverse races.

R. Saudek examines the assumption, made by all graphologists, lawyers, bankers, etc., that no two persons can ever produce identical spontaneous handwritings. Rare instances of remarkable similarity between the scripts of unrelated persons do occur, but the main exception to the rule is provided by the scripts of identical (monozygotic) twins. In some 5 per cent. of these pairs (i.e. in about 0.01 per cent. of the total population) the handwritings are so similar that the differences between them might well be due to the normal fluctuations in the writing of one individual.

H. B. Fantham contributes a so-called biological study of the personality of Charles Dickens, an article which is unworthy of the standard set by this periodical, being a vicious example of 'Bermanism.' By Bermanism the reviewer means the ascription of an individual's personality traits to the hypothetical strength or weakness of the individual's endocrine glands, a doctrine which is typified by L. Berman's writings. In point of fact, although the balance of endocrine secretions exerts an enormous effect upon growth and health, yet there is not a shred of evidence to support the view that the adrenal glands produce pugnacity, the post-pituitary gland imagination, and so on. Fortunately in this same issue there is a devastating review of Berman's latest effusion on pp. 261-2; so that anyone who reads the review as well as this article is not likely to be grossly misled.

V. E. Fisher and A. J. Marrow report an interesting experiment in which joyful or melancholy

moods were induced in a number of subjects by hypnotic suggestion. They were given free word association tests before and after the experiments. The result of the melancholy mood was a great lengthening of reaction times (about 163 per cent.), and the production of a greater number of melancholy responses; the joyful mood also led to an increased average reaction time (about 117 per cent.) and to the production of a greater number of joyful responses.

The remaining articles are sufficiently described by their titles: *A Contribution to the Physiology of the Hypnotic State of Dogs*. By I. P. Pavlov and M. K. Petrova.

*Temperament and Disposition in Young Children's Music*. By W. Platt.

P. E. VERNON.

## Human Biology

**December, 1933, Vol. V, No. 4.**—It has often been urged that eugenic literature deals in surmises, selected cases, and *a priori* arguments rather than in facts. "Human Biology" remedies this defect; it is a vast repository of facts—nothing seems too unimportant to record. Thus in describing a case, extremely interesting to all eugenicists, of a very rare developmental dental anomaly occurring in exactly the same way in each of two identical twins, Dr. Ashley Montagu publishes the exact time (to the nearest minute) of the birth of the twins. In scientific literature, as in other arts, simplicity and economy in presentation has much to be said for it.

M. S. PEASE.

**February, 1934, Vol. VI, No. 1.**—In a paper entitled *The Thoracic Index*, C. B. Davenport describes a method of measuring the size of the thorax in mammals. The paper is for the most part concerned with the measurements of the human thorax at different ages. It is curious that there is a tendency for the thoracic index to increase steadily, except for a temporary decrease at the time of puberty. In the latter half of the paper the author refers to the thoracic indices of examples from the various groups of the mammalia, and shows that the index may be correlated with the mode of life.

In two papers in this number T. Komai and G. Fukuoka give statistics concerning mirror-imaging in twins in Japan, and on the frequency of left-handedness among Japanese children. Among boys left-handedness occurs in from 5.8.5 per cent. and among girls in from 4.6 per cent.

Professor R. Pearl and Ruth D. Pearl continue their *Studies on Human Longevity*. In a very long paper crammed with most important information and statistics, they show conclusively that heredity plays a most important part in the determination of the longevity of the individual human being. They point out that comparison of two

groups of persons dealt with in the paper shows that for every year of superior longevity realized by the longevous group (and their sibs), there is a corresponding superiority in the longevity of their immediate ancestors. Furthermore, this result appears in spite of the fact that no allowance or correction has been made for accidental deaths. The authors are unable to say at this point whether the inheritance of longevity is Mendelian in nature or otherwise.

In this volume is given an account of the organization for research in population, under the auspices of the International Union for the Scientific Investigation of Population Problems. A detailed scheme of the lines along which the work is to proceed is given. C. C. HENTSCHEL.

### Journal of Heredity

**October, 1933, Vol. XXIV, No. 10.**—Dr. D. Cecil Rife has collected interesting data which go to show that the value of finger print-patterns for determining monozygosity has been considerably exaggerated, though when used with other criteria they are often good indicators. Finger-patterns of identical twins as a group are more similar than those of sib-pairs; but in many instances the intra pair differences of identical twins are greater than those of some sib-pairs. On the other hand, he finds that similar iris pigmentation is a far more reliable criterion of monozygosity than similar finger-patterns or any other physical measurements which have been suggested.

**November, 1933, Vol. XXIV, No. 11.**—C. V. Green records an interesting case of linkage in size factors in a cross between *Mus musculus* and *M. bactrianus*. In these two species the size of foot differs markedly. *Musculus* with the longer foot carries the recessive genes for dilution, chocolate, and non-agouti, while *bactrianus*, with the shorter foot carries the corresponding dominant genes. In the back-cross and F<sub>2</sub> generations there is significant association between foot length and chocolate, while nothing of the sort is to be found in respect of dilute and non-agouti characters. Dr. Green has already shown that other size characters (e.g. femur and tibia length) are associated in inheritance with chocolate colour. It is probable therefore, that the size factor located in the chocolate chromosome is what Wright has called a "group factor," affecting all the bones in the hind limb.

**December, 1933, Vol. XXIV, No. 12.**—F. H. and C. H. Clarke bring together two interesting pedigree tables extending over five generations showing ordinary simple dominant inheritance of teeth without enamel. This is a rare dental defect, affecting all the teeth, so that at an early age, the teeth become worn down to the gums. The pedigrees show that the descent is not sex-linked, and that the affected individuals are all heterozygous. The homozygous phenotype is not known.

Sontag and Nelson give very complete records for a case of monozygotic triplets from birth up to three years of age. M. S. PEASE.

### Monatschrift für Kriminalpsychologie und Strafrechtsreform

**1934, Vol. I.**—*The Danish Sterilization Law and the care of the Feeble-minded.*—Dr. H. O. Wildenskow gives a careful review of the castrations and sterilizations undertaken since the law came into force on June 1st, 1929, observing that the measure was mainly built on Swiss experience. Castration is reported for a total of forty-one cases, of which fifteen were from the mental hospital in Sundholm and are studied elsewhere by Brünniche and Max Smith, who show in 41 per cent. of cases that complete asexualization has not been achieved. The author gives notes of ten feeble-minded males personally studied by him before and after operation. At first he took only ages over 30 years (21 years is the age minimum under the Act) in view of conflicting reports as to subsequent physical sequelae in prepubertal males, and his experience of retarded sexual development in such cases; later, lower ages will be included at the Keller Institute. Nine showed complete asexualization and have been transformed from a condition of misery and conflict to steady, contented, and usually industrious living; one case, however, has still some libido, not, however, preventing him from freedom over prolonged periods (this case is reported eighteen months after operation, which from Swiss experience is not long enough to establish complete change over in physiological rhythm).

Wildenskow quotes a private surgeon's report of castration of two mongol boys at 12 years of age. The first showed no increase in weight, was much relieved and showed distinctly greater capacity, possibly owing to the cessation of constant sex-tension. In the second this same observation was made, but there was increase in obesity, not, however, excessive. The author suggests that greater use might be made of this operation for tranquilizing and stabilizing low-grade cases (this corresponds to the view of some American psychiatrists).

Readers whose imagination enables them to dramatize these clear, concise, and bald case-histories will be impressed as by watching a pageant of miracles—degradation, cruelty, violence and bestiality, with the damage and misery they cause, giving way to steady, useful, contented life, on a level of varying low intelligence.

The author further analyzes the unsuccessful cases (mostly psychiatric) as due to cerebral rather than undue physiological stimulus. Physiological changes in increased sweating (two cases) and temporary skin eruptions (two cases) may be noted. Castrations of adult females are not noted individually.

Forty-four sterilizations performed under the Act are given in short case-histories, thirty-three women and eleven men. These make very satisfactory reading. Of the females, twenty-nine are out at work and adjusted satisfactorily to social life; four are married. Of the total operated only one has been taken back permanently to the Institution, though the majority had illegitimate children before segregation. The marriages and betrothals show assortative tendency.

Ten of the eleven males were paroled, two were again segregated for vagabondage and theft; three had sex-unions with defective girls; one is married to a defective.

The author resumes two findings on inheritance as follows: Where both parents are defective 91 per cent. of the children are defective. Where one parent is an ament 43.18 per cent. of the offspring are defective.

That the feeble-minded male is not quite negligible in regard to parenthood and promiscuity appears clearly in this interesting report. Finally the author calls for revision of the law which entails fourteen distinct formal procedures for each operation.

C. B. S. HODSON.

## Population

**February, 1934, Vol. I, No. 2.**—*Population Changes in England and Wales: Families and Dwellings: 1921-1931.*—E. C. Rhodes calls attention to the material of great interest to students of population problems contained in the reports of the Registrar-General on the census of 1931. A table shows the correlation between unemployment and migration. Further tables and figures in the text show the increase in the number of dwelling-houses and also of families during the decade ending 1931. The decreasing size of families both by county and by district is shown and certain necessary adjustments in the census figures rendered necessary by the late date of the census of 1921 are discussed.

*The History of Longevity in the United States.* By Louis I. Dublin and Alfred J. Lotka.—This is described by the authors as a brief summary of the trend of longevity in the U.S.A. in the past decades, based on the data of the 1930 census. Accurate data for large areas of the U.S.A. are only available for a comparatively recent period. For the late eighteenth and for the first part of the nineteenth centuries only fragmentary and very unreliable data exist. The meagre material available for the nineteenth century is shown in Table I. From this it may be assumed that the expectation of life about 1850 was in the neighborhood of forty years.

The main tables for the ten Registration States only begin in the year 1901, though the figures for the State of Massachusetts can be carried back a decade farther. The main tables for each decade between 1901 and 1930 show the expectation of

life and the annual mortality for white males and females for each decennial age group. The tables show the unequal distribution of the decreased mortality among the different age groups. Table III shows the important changes in the causes of death. The quinquennia 1900-4 and 1925-9 are compared from this point of view. Diseases have changed considerably in their relative importance as causes of death. In a list of twenty of the numerically most important causes of death only eleven causes appear in the lists of both periods, and only one disease (chronic nephritis) has the same relative position in both periods. In some cases, however, the change is only relative, not absolute; that is, the death-rate from some causes has not changed but their relative position has altered owing to changes in other rates. The writers conclude by estimating the prospects of future improvements. They give a "Hypothetical Life Table" based on the New Zealand table and that of the Metropolitan Life Insurance Company. This shows what could be reasonably hoped for if modern medical and sanitary knowledge were fully applied.

*Racial and Social Problems in the Light of Heredity.* By Professor R. Ruggles Gates.—This article deals with thorny problems of race admixtures past, present and future. A reprint was reviewed in the April number of the *EUGENICS REVIEW* (p. 73).

*On the Concept of an Optimum in Population Theory.* By Lindley M. Fraser.—The author deals with the ambiguity of the term optimum population. There are even difficulties in the application of the theoretical conception of the economic optimum. But a more serious count against the term is that the economic optimum may be confused with the socially best.

*A Note on the Population of Egypt.* By M. el-Darwish and El-S. Azmi.—The authors first deal with the unsatisfactory nature of the attempted enumerations in Egypt between 1800 and 1882. The first moderately satisfactory census was taken in 1897. The figures for 1800, 1846 and 1882 are given with due warnings as to their unreliable nature. A table follows showing the relative rates of growth of nine countries between 1901 and 1931.

The article then deals with Egyptian statistics as to marital state, proportion between the sexes and density of population. Egypt is shown to be one of the most densely populated areas in the world. Passing to vital statistics the writers state that though registration of births and deaths dates from the early nineteenth century it was only made compulsory in 1912. During the last thirty years the Egyptian birth-rate has remained practically stationary. Both the birth- and the fecundity-rates are the highest in the world except those of Palestine. The death-rate in the same period has shown a slight rise, as has also the infant mortality rate. The natural rate of increase is the highest



in the world except that of Palestine ; it is a good deal higher than that of Japan, which excites so much remark. This rapid increase presents a grave problem for a purely agricultural country which is already densely populated, but the authors venture to predict that Egypt will soon follow the trend of other countries in the matter of birth- and death-rates.

*Migration in the Twentieth Century.* By Professor John Coatman.—Deals with international migration, which he holds to be a problem that should be dealt with internationally. This has already been recommended by several conferences and commissions. The problem is bound up with the changing differential rates of natural increase between Northern and Western Europe on the one hand and Southern and Eastern Europe on the other, and between Europe and Asia. The problems bequeathed to us by the great expansion of the populations of Western Europe in the eighteenth and nineteenth centuries have not been solved, while the recession of these populations is presenting us with problems no less formidable. During the nineteenth century migration was personal and spontaneous, but it is now increasingly regulated both by the countries of emigration and immigration. This regulation is purely national in its objects. The effects of the immigration laws of the U.S.A. are shown statistically. Brazil, the Argentine and Canada have all begun restrictive policies. Asiatic migration in particular is limited by the restrictive policies of immigration countries.

The author pleads for further research into the economics of migration, in particular into its relation to the trade cycle. International action might well begin in the field of research.

He envisages an increase of long-distance temporary migration made possible by modern transport. Finally, he discusses the future prospects of Empire migration. He contemplates this as continuing on a relatively small scale and as being based on intensive rather than extensive agriculture, and industrial as well as agricultural development. The planned export of capital as well as labour would be desirable.

*Organization for Research in Population.*—Professor H. P. Fairchild describes the formation and constitution of the Population Association of America.

*Some Studies in Vital Statistics in Villages in Yugoslavia.* By Olive Lodge.—This is Interim Report No. 2 to the International Population Union, the work having been assisted by a grant from the Union. Miss Lodge has been studying the life of the peasants, principally in the villages of Bosnia, Dalmatia, and parts of Old Serbia and Macedonia. She has collected 560 family histories. A summary of one of the largest is given in the article. She found everywhere the same high birth-rate, high death-rate, and high infant mortality rate.

M. C. BUER.

## Sociological Review

**April, 1934, Vol. XXVI, No. 2.**—*The Psychological Background of Dictatorship.*—By D. Spearman.—Mrs. Spearman, discussing the change of opinion implied in the acceptance of the rule of a dictator, finds an explanation in the sense of change, roused by the threat of revolution or by foreign attack. This sense of danger stimulates the submissive and inhibits the self-assertive tendencies. These submissive tendencies are supported by the complexes associated with the idea of power—by sadistic and masochistic desires—which can be satisfied by the rule of a dictator and by pure hero-worship. The analysis is based on the propaganda of the dictators themselves, on writings of adherents which cannot be called propaganda in the strict sense, and on descriptions by neutral observers.

*The Future Population of Great Britain.*—By G. Leybourne.—Dr. Leybourne examines the probable future trend of population in Great Britain in the light of the most recent data. She assumes that mortality rates will remain much as they are at present and that fertility rates will continue to fall. The latter assumption is based on the view that family limitation has not yet reached its limits and on the fact that the average age of child-bearing women will increase. Dr. Leybourne shows that the decline in population will be much more rapid than is generally expected. According to her calculations the population will be at its maximum in 1936 with 45 millions, and will thereafter decline to 32 millions in 1976. The decline will bring about an important change in age distribution, increasing the relative numbers of elderly persons. The article is accompanied by an appendix discussing the statistical methods employed.

D. DOYLE.

## The Journal of Criminal Law and Criminology

**January-February, 1934, Vol. XXIV, No. 5.**—*Criminality and Delinquency in Twins.*—By Aaron J. Rosanoff, Leva M. Handy, and Isabel A. Rosanoff.—The authors have collected records of 1,008 pairs of twins in whom one or both of each pair was affected by mental disorder. Included in the study are cases of criminality in adults, juvenile delinquency, and behaviour difficulties in children ; in all 340 pairs of twins. The present report deals with this part of the material.

The authors consider the pre-germinal factors are perhaps the only ones which may be spoken of properly as hereditary, and that to establish the influence of such factor it is not enough to show that it runs in families, as that fact alone can often be accounted for by exposure of familial groups to the same conditions. But if in addition to the familial occurrence of a given disorder it may be shown that such disorder is found in one of a pair

of monozygotic twins, regularly affects the other as well; and if it may be shown further that if such disorder is found in one of a pair of dizygotic twins, the other twin is, as a rule, free from it; then, the authors consider the evidence is sufficient to establish a pre-germinal factor as the sole or principal factor in the causation of the disorder under consideration.

Reference is made to the investigation of Johannes Lange, who found in thirty pairs of criminal twins thirteen were monozygotic and seventeen dizygotic. Among the former both of each pair were criminal and in a similar way, in ten cases. In the remaining three cases only one was criminal in each pair, the other being without such tendencies. This is in strong contrast to the dizygotic twins, among whom in only two cases were both twins of each pair affected. In fifteen cases only one of each pair was affected.

A recent study by A. M. Legras is also quoted. This investigator found in nine pairs of criminal twins four were monozygotic and five dizygotic. In all four cases of monozygotic twins both twins were affected. In each of the five pairs of dizygotic twins only one twin was affected.

In the authors' adult criminality group thirty-three pairs of male twins were classified as probably monozygotic. In twenty-two of these cases both of the twins were criminal; in eleven only one was criminal, the other not. There were twenty-three pairs of dizygotic male twins in the group. In only three cases were both the twins criminal. In twenty cases only one was criminal, the other not. A similar result was found in female monozygotic and dizygotic twins.

The findings of the authors are similar in the

main to those of Lange and Legras, and point to the existence of either pre-germinal or germinal causative factors in some cases of criminality. We should know more about the matter, however, had the authors been able to present what is much more difficult, a series of cases of twins with criminal records who had been separated from early infancy and subjected to the influences of different environments.

The figures presented of adult criminality and juvenile delinquency in opposite-sex dizygotic twins are significant. Of a total of seventy-two cases both twins were affected nine times, the male twin was affected in forty-nine cases and the female twin in only fourteen cases. The investigation emphasizes the well-known fact that criminality is more common in men than in women.

A case of male twins is recorded of whom one committed several criminal offences after receiving head injuries, and the authors suggest that a head injury may produce such a change in a person's temperament or character as to establish a persistent criminal tendency which previously was not observed. Of this there seems to be little doubt. The reviewer has published two cases and in one the persistent criminal conduct was associated with paralysis, demonstrable physical evidence of the injury. The authors consider that it is not improbable that a head injury, like alcoholism or diffuse syphilitic disease of the cerebral cortex, may injure controlling and inhibiting mechanisms and thus release an anti-social tendency in individuals in whom such a tendency has previously existed as an inherited or inborn but latent trait.

W. NORWOOD EAST.



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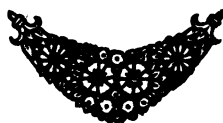
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